

13629STUS01U

WHAT IS CLAIMED IS,

1. A method of assessing if a subscriber loop qualifies for xDSL service, the subscriber loop being connected to a public switched telephone network (PSTN) by a switch at a central office (CO), said method comprising:

modeling a loop representative of said subscriber loop based on electrical characteristics of said subscriber loop determined at said CO to assess performance of said loop when modified with at least one repeater;

estimating if said subscriber loop when modified with at least one repeater provides a bandwidth suitable for said xDSL service, using said model.

2. The method of claim 1, further comprising estimating from said CO end that said subscriber loop does not provide a bandwidth suitable for said xDSL service without a repeater.
3. The method of claim 1, wherein said xDSL service is HDSL2.
4. The method of claim 1, wherein said estimating comprises approximating if a noise margin of a portion of said modeled loop upstream of a first repeater is sufficient for carrying xDSL signals.
5. The method of claim 4, wherein said estimating comprises approximating if a noise margin for each portion of said modeled loop between repeaters is sufficient for carrying xDSL signals.

13629STUS01U

6. The method of claim 5, wherein said estimating comprises estimating that each portion of said loop between repeaters has a noise margin sufficient for carrying xDSL signals.
7. The method of claim 4, further comprising screening a subscriber loop record of a carrier service database to assess at least one of said electrical characteristics of said loop to approximate said noise margin for said each portion of said modeled loop between repeaters.
8. The method of claim 7, wherein said subscriber loop record comprises information about devices connected to said subscriber loop and services deployed on said subscriber loop, and said screening comprises disqualifying said subscriber loop for xDSL service if any one of a set of predetermined disqualifying conditions are associated with the subscriber loop.
9. The method of claim 8, wherein the set of predetermined disqualifying conditions comprises: an intercepted line on said subscriber loop; an existing service on the subscriber loop that is incompatible with xDSL services; and a device installed on said subscriber loop that is of a type which prevents transmission of xDSL signals.
10. A computer implemented method of qualifying a subscriber loop, provisioned with at least one repeater for xDSL services, the subscriber loop being connected to a public switched telephone network (PSTN) by a switch at a central office (CO), said method comprising:

determining a first location for a repeater on said loop upstream of said CO, so that a portion of said loop between said CO and said first repeater qualifies for carrying xDSL signals.

13629STUS01U

11. The method of claim 10, wherein said determining comprises determining a location on said loop defining a loop portion having a noise margin sufficient for carrying said xDSL signals.
12. The method of claim 10, wherein said determining comprises assessing a noise margin of multiple locations along said subscriber loop until said first location having a sufficient noise margin is determined.
13. The method of claim 10, further comprising assessing a maximum distance of said first repeater from said CO.
14. The method of claim 10, further comprising determining locations of subsequent repeaters on said loop, so that each loop portion between adjacent ones of said repeaters qualifies for transporting said xDSL signals.
15. A system for qualifying a subscriber loop for xDSL services if provisioned with at least one repeater, the subscriber loop being connected to a public switched telephone network (PSTN) at a central office (CO), the system comprising a processor operable to:
determine, from a CO end of the subscriber loop, one or more electrical characteristics of said subscriber loop; and
estimate if said subscriber loop when modified with at least one repeater provides a bandwidth suitable for said xDSL service, using said characteristics of said subscriber loop determined by said processor.
16. The system of claim 15, wherein said processor is further adapted to screen a subscriber loop record of a carrier service database for said subscriber loop.

13629STUS01U

17. The system of claim 16, wherein said subscriber loop record includes information about any one or more of devices connected to said subscriber loop and services deployed on said subscriber loop, and said processor is adapted to disqualify said subscriber loop for xDSL services if at least one predetermined condition is associated with said subscriber loop.
18. The system of claim 17, wherein said predetermined disqualifying conditions comprises at least one of an intercept on the subscriber loop; an existing service on the subscriber loop that is incompatible with xDSL services; and, a device installed on the subscriber loop that is of a type which prevents transmission of wide band xDSL signals.
19. A computer readable medium storing processor executable instruction, that when loaded at a test system including a processor, adapt said processor to assess if a subscriber loop connected to a public switched telephone network (PSTN) by a switch at a central office (CO) to deliver xDSL services to a customer upstream of said CO, if provisioned with at least one repeater qualifies for xDSL services, by:
- approximating if a noise margin of a portion of said subscriber loop upstream of a first of said at least one repeater is sufficient for carrying xDSL signals.
20. The computer readable medium of claim 19, wherein said approximating comprises calculating an xDSL noise margin for said portion.
21. A method of determining locations along a subscriber loop for placing repeaters, so that said subscriber loop when provisioned with repeaters qualifies for xDSL services, the subscriber loop being connected to a public switched telephone network (PSTN) by a switch at a central office (CO), said method comprising:

13629STUS01U

determining a first one of said locations at a maximum distance from said CO, so that a portion of said loop from said CO to said first location has a noise margin sufficient to provide xDSL service.

22. The method of claim 21, further comprising

determining subsequent locations for repeaters along said loop, so that each loop portion between two repeaters has a noise margin sufficient to provide xDSL service.